1.OA Daisies in vases

[Alignment 1: 1.OA.A.2](#)

Jasmine has eight daisies and three vases - one large, one medium-sized and one small.

She puts 5 daisies in the large vase, 2 in the medium vase and 1 in the small vase.

- Can you find another way to put daisies so that there are the most in the large vase and least in the small vase?

- Try to find as many ways as you can put the daisies in the vases with the most in the large vase and the least in the smallest vase. If you think you have found them all, explain how you know those are all the possibilities.

Commentary:
This instructional task can be thought of as a sequel to K.OA.3, which asks students to consider all the decompositions of a number into two addends.

Because first grade students may have trouble reading this task even thought they are intellectual capable of working on this problem, it will help if the teacher reads the prompt to the students and then has them work together in pairs or small groups. Some students will interpret "most" to mean "strictly greater than" and some will allow for the possibility that "most" and "second most" are actually equal. Either interpretation of "most" is fine as long as the students are consistent with this interpretation throughout. Similarly, whether a vase can remain empty can be left to students and teachers.

Solution: List, and decomposition strategy.

The full list is:

- 8 in the large, and none in the others, which we abbreviate as $8, 0, 0$.

- 7 in large, 1 in medium, 0 in small, which we abbreviate as $7, 1, 0$.

- $6, 2, 0$

- $6, 1, 1$

- $5, 3, 0$

- $5, 2, 1$

- $4, 4, 0$

- $4, 3, 1$

- $4, 2, 2$

- $3, 3, 2$

If students and the teacher decide to not allow empty vases or equal numbers, there are only two possibilities, the other being $4, 3, 1$. It is likely that at least equal amounts will be allowed, in which case there are five possibilities.

One full solution strategy is to first decide how many are in the first vase, and then decide from there how many in the second and third vases.